REMARKS

Claims 1-22 are pending. By this Amendment, new claims 16-22 are added.

The December 27, 2004 Office Action rejected claims 1-15 under 35 U.S.C. § 102(e) over Sorenson (U.S. Patent No. 6,717,397). Applicant respectfully traverses this rejection.

Independent Claims 1, 9, and 12

Independent claim 1 recites a conductor in which rate of change of current is to be sensed. Each turn of a coil recited in the claim is displaced from its neighboring turn in a direction parallel to the direction of the conductor (see claim 1, lines 2-4, for example). Independent claim 9 recites at least one conductor comprising a phase winding and a sensor connected to sense the rate of change of current in a phase winding. Each turn of a coil recited in the claim is displaced from its neighboring turn in a direction parallel to the direction of the conductor (see claim 9, lines 2-4 and 6-7, for example). Independent claim 12 recites similar features; note lines 2-4 and 6-7, for example.

The Office Action indicates that Sorenson's elements 12, 14, visible in e.g. Figure 4 of Sorenson, constitute the claimed conductor. (Office Action, page 3, rejection of claims 4-6.) However, contrary to what is claimed, conductors 12, 14 in Sorenson are *not* a conductor *in which rate of change of current is to be sensed*, as recited in each independent claim. Instead, in Sorenson, the actual conductor under test extends into and out of the plane of e.g. Figures 1 or 4, i.e. into and out of the page, close to point 18 of Figures 1 or 4. Note Sorenson, column 2, lines 20-26. Contrary to what is stated in the Office Action, conductors 12, 14 in Sorenson can not be

the claimed conductors, because Sorenson's conductors 12, 14 are not conductors in which rate of change of current is to be sensed.

Sorenson's conductor under test is in a direction *perpendicular* to the direction of displacement of neighboring turns (as the term 'turns' apparently is interpreted in the Office Action) in Sorenson, instead of *parallel* thereto as claimed. Although the Office Action contends that conductors 12, 14 are parallel to the direction of displacement in the manner claimed, conductors 12, 14 are not conductors in which rate of change of current is sensed - thus they cannot be the claimed conductors. Sorenson's true conductor under test extends into and out of the plane of Figures 1 or 4. Therefore, each 'turn' in Sorenson is displaced from its neighboring turn in a direction perpendicular to Sorenson's conductor, not parallel to it as claimed. Accordingly, Applicant submits that Sorenson fails to anticipate independent claims 1, 9 and 12.

New Dependent Claims

The dependent claims recite additional features, not taught or suggested by the prior art. New dependent claim 16, for example, recites that each turn is a single wind of the coil. In Figure 3 of Sorenson, on the other hand, each "turn" (identified in the Office Action as tracks 42A, 42B) includes multiple winds. New dependent claim 17 recites that only half of each wind is on the recited first layer and only half of each wind is on the recited second layer, such that the first and second layers each include a plurality of half winds. In Sorenson, on the other hand, each layer 32, 34, 36 includes multiple full winds.

Dependent claim 18 recites a plurality of vias extending through the printed circuit board, with the vias, as viewed in cross section, together forming a line of vias extending in a direction parallel to an axis along which current in the conductor flows. One specific embodiment of this claimed feature is shown in Figure 5 of this application as a line of vias extending between via 46 and via 48. In Sorenson, on the other hand, a line including vias 44A and 44B (Figure 3) extends *perpendicular* to the conductor that extends into and out of the plane of Figures 1 and 4, not *parallel* to it. As stated above, conductors 12, 14 of Sorenson do not constitute the claimed conductor, because the Sorenson sensor is not sensing rate of change of current in those conductors. Accordingly, Applicant submits that claim 18 defines patentable subject matter.

Dependent claim 19 recites that the plurality of vias as viewed in cross section together form a pair of lines of vias, each line of vias extending in a direction parallel to the recited axis. In Figure 3 of Sorenson, on the other hand, only one line of vias exists, the line extending between vias 44A and 44B, and it extends in a direction other than that claimed, as explained above.

Attention also is directed to new dependent claims 21-22.

New dependent claim 20 recites that each turn of the recited coil forms a staggered overlap with adjacent turns of the coil. One specific embodiment of this claimed feature is shown in Figure 5 of the present application. In Sorenson, on the other hand, there is no such staggered overlap.

Applicant submits that Sorenson fails to teach or suggest the features of these or the other dependent claims.

Conclusion

In view of the foregoing, Applicant submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are requested. The Commissioner is hereby authorized to grant any extensions of time and to charge any fees under 37 C.F.R. § 1.16 and § 1.17 that may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 500471.

The Examiner is invited to telephone the undersigned to advance prosecution.

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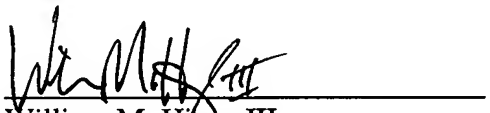

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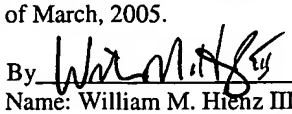
Please grant any extension of time necessary for entry; charge any fee due to Deposit Account No. 500471.

CERTIFICATE UNDER 37 C.F.R. 1.8:
The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail with sufficient postage, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 28th day of March, 2005.

By 
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